infrastructure and advanced services.

This strategy is also appropriate for local communities. We intend to propose solutions that will allow local communities, educational institutions, and other public entities to partner with the state on a voluntary basis and share the benefit and burden of advanced broadband service and infrastructure development.

Second, stimulating the demand and increasing utilization by addressing the Information Technology training and development needs of rural communities. Building a competitive telecommunications infrastructure in rural areas depends on growing demand by sophisticated users. This requires community-based awareness, organization, and training.

The NITC, in partnership with key stakeholders drawn from the public and private sectors, has initiated a coordinated effort of addressing the broadband spectrum of IT training and development needs in rural communities. Specific tasks include developing a database of IT resources, performing a gap analysis of existing programs to determine if additional resources are needed, and developing strategies for focusing and addressing rural community needs through collaborative and effective practices.

Third, addressing regulatory and institutional barriers relating to the cost of advanced services. The

federal universal service fund provides discounts for schools, libraries, and hospitals. However, many of our public institutions report the process of filing for applications is lengthy and cumbersome.

Additionally, federal and state USF formulas, as well as regulatory issues such as cross-LATA [phonetic] surcharges, are commonly identified as potential barriers to eliminating the digital divide between rural and urban Nebraska.

The NITC intends to address these barriers through an active partnership with the FCC, Nebraska's Public Service Commission, the telecommunications industry, and other appropriate entities. We applaud the FCC for its efforts to open critical channels of communication by holding hearings such as these, and we look forward to additional, mutually beneficial discussions regarding universal service policy development.

Thank you.

(Applause.)

MR. JOHNSON: Thank you. If some of our visitors would like to direct questions to Governor Maurstad, we welcome you to do so at this time -- or wait until we're all finished.

MS. ROE: Distinguished panel members and guests, I appear before you today as a member of Iowa Governor

Vilsak's Strategic Planning Council. I chair the Council's Technology Subcommittee.

The council intends to recommend to Governor Vilsak in June that the State of Iowa, under the leadership of the Iowa Utilities Board, should work with the public sector to develop a comprehensive statewide strategic plan to give all Iowans access to affordable high-speed broadband services by 2005. The council believes that access to affordable advanced telecommunication services, particularly high-speed data services, has become critical for economic growth, community development, and quality of life in Iowa.

High-speed data connections are increasingly a necessity for Iowa businesses. It's becoming difficult to attract new businesses to areas without access to such high-speed connectivity or to convince existing businesses to expand their operations in such areas. In fact, some businesses may choose to relocate if such facilities are not available at nationally competitive rates.

Similarly, as the Internet becomes an increasingly efficient way to communicate, access information, and make purchases, consumers are beginning to perceive that high-speed data connectivity is no longer a luxury, but a fundamental part of a quality lifestyle. Over the next decade affordable high-speed data services could contribute significantly to the revitalization of Iowa's

rural areas, which have suffered a steady loss of population to larger metropolitan areas due to the demise of many family farms and the loss of services in rural communities.

Such facilities could attract new businesses, permit rural residents to work for distant employers or start their own e-businesses, and increase their quality of life. However, high-speed data services currently are not widely available in Iowa at affordable rates.

Iowa has good news and bad news with regard to deployment of high-speed data facilities and services. The good news is that Iowa led the nation in connecting schools and libraries to broadband services by building the Iowa Communications Network beginning in 1993. The ICN provides voice, video, and data service to K-12 schools, colleges and universities, libraries, state and federal government offices, and medical facilities at rates that cover costs,

But the role of the ICN is strictly circumscribed in order to limit competition with the private sector. Although the ICN's fiber facilities pass within 15 miles of every Iowa home and business, the ICN is forbidden by law from making its services or facilities available to such potential customers even if no other private provider is able to do so at a reasonable cost. In fact, the ICN may not even make its facilities available to private telecommunications providers. As a result, the full

potential of the ICN infrastructure is not being utilized.

Another piece of good news and bad news is that high-speed, high-capacity information superhighways serving this nation criss-cross Iowa from east to west and north to south, but there are no on-ramps or off-ramps in Iowa for access. The entire state is webbed with broadband networks that reach into every county but are not connected. This infrastructure also lacks the connections for the last mile to the home, the switches and transmission equipment to extend high-speed Internet service to every home and business.

Iowa is largely a dial-up 56K modem state, a method of transmitting data that is increasingly viewed by consumers as unacceptably slow. About 13 percent of Iowans currently have high-speed broadband access to the Internet at home, although that number is growing. In fact, anecdotal evidence suggests that affordable high-speed broadband services are increasingly available in large metropolitan areas, as indicated by growing customer subscriptions, but outside of those metro areas high-speed broadband services either are not currently offered or appear to be offered at prices that exceed what many businesses and consumers are willing or able to pay, although prices vary with technology and location.

There is cause for cautious optimism. Many

private providers in Iowa believe that these high-speed services will eventually become available at more affordable rates as consumer demand grows and prices fall, even in rural areas.

Some believe that wireless systems hold great promise for providing affordable service in small population centers, but other providers believe that many rural areas of Iowa lack the critical mass of customers to attract new infrastructure investments that would bring advanced services to all areas of the state.

As a result of these findings, the Governor's Strategic Planning Council intends to adopt the recommendation that the state work with the private sector to develop a comprehensive statewide strategic plan to give all Iowans access to affordable high-speed broadband services by 2005. Governor Vilsak has already opened a dialog with private telecommunication providers to explore these issues, but these discussions have just begun and it is far too early to be able to offer the joint conference any insight into how this might be accomplished.

Our challenge is to build a partnership with the private sector to allow market forces and private initiative to push deployment of these services and facilities as far as possible, and formulate strategies and policies to fill the gap to make it possible for all Iowans to join the

information age. We look forward to sharing our strategic plan with you when it is finalized.

(Applause.)

MR. HILSABECK: While my day-to-day position is with the ALLTEL Corporation, I'm here today representing the Nebraska Information Network, or NIN, which is an association of telephone companies in Nebraska who serve rural communities, and that's every telephone company in Nebraska.

The mission of NIN is to ensure that the capabilities of the information superhighway extend to the rural areas of the state, thereby enhancing their economic development opportunity, providing access to government, education, and health care. NIN is financed through an annual operating budget that's funded by telephone company dues.

Members of the Nebraska telephone industry are very concerned about the future well-being of our rural communities. To a great extent, the economy presently -- and most certainly the economy of the future -- is dependent upon the ability to share information worldwide at high speed band with capacity. The telephone industry has been well aware of this from the time public use of the Internet began. We have been innovative and aggressive in providing local access to the Internet.

Currently over 99 percent of Nebraska's telephone customers can access the Internet with a local call, and over 90 percent have Internet access at 56K speeds. As has been suggested earlier, however, that is rapidly becoming somewhat unacceptable among more sophisticated customers.

This significant achievement is in part attributable to the desire of Nebraska's companies to work with the communities we've served for decades to create a win-win situation. It is our belief that a healthy community economically and socially is a prerequisite to having a healthy telephone company. It is also due in part to the climate in Nebraska where state government took a broad view of their role and saw themselves as partners with the citizens of the state.

For example, in the early part of the decade of the '90s, Nebraska state government people initiated a dialogue with the industry on future government bandwidth needs. We also discussed how state needs could be integrated with private needs to reach the economies of scale that would foster the development by the industry of a high-speed data network that all sectors of the economy could use. Out of this joint planning came the nation's first statewide frame-relay or packet-switching network.

The incentive for the Nebraska telephone industry to make the investment in a faster data network as well as

the deployment to an all digital switching system in a fiber backbone transport network actually began with the passage of LB 835, a bill that was passed by the Nebraska legislature in 1986 while Senator Kerrey was then governor. With LB 835 providing an enlightened regulatory framework which included pricing flexibility, the telephone industry was able to focus on technology and customer service.

We have shown that private industry has the flexibility and capacity to respond to changes to technology in the marketplace at a rate that is unmatched in the public sector. Having a frame-relay network in place was a key to our industry's rapid rollout of local Internet access for all sectors of the economy. In highly rural environments, aggregation of market demand is a key element in keeping citizens and customers on the digital playing field.

I would be remiss if I did not mention the importance of subsidies in keeping the rural areas of our state on board as the digital world moves faster and faster. Those funding incentives need to be continued as we deploy a public switch network with greater speeds and greater bandwidth. The telephone industry in Nebraska and throughout the country has been diligent in making wise use of these subsidies for our rural areas for many years.

The larger remaining issue we need to solve is the issue of broadband availability to customers in low-

density population areas of the state. Just being able to provide broadband access anywhere in the state on an as-needed basis is not adequate. Without appropriate funding incentives the concentration of customers in rural environments is insufficient to economically support the investment for fiber to the home for digital subscriber line technology on an economic basis.

The telephone industry in Nebraska can provide the desired bandwidth to specific locations on an as-needed basis. The digital divide exists only when we think of higher-speed access to the Internet as a universal service item, namely that it can be requested like dial tone at any location at any time, and then the digital divide exists only in the smaller communities of the state or in the case of a farm or ranch or an acreage that may be anywhere from two miles to 70 miles from a community or from a telephone change switch.

In the case of smaller communities, the Nebraska telephone industry is making progress in deploying digital subscriber-line technology on an as-needed basis. However, the accelerate the deployment of XDSL to the degree approaching universal availability within the next three to five years, financial investment incentives are needed.

In any state where there is a disproportionate amount of rural geography and rural customers relative to

the urban population centers, funding of these incentives at the state level will be difficult, particularly in the near future. States like Nebraska are still dealing with the damaging effects of shifts in the universal service funding program. If these issues are as important and pervasive as public officials suggest, including President Clinton, then the federal government needs to step up to the plate with appropriate funding mechanisms.

What does not work is the disaggregation of market demand through placement of publicly owned facilities by providers to deploy services only to larger customers in rural communities. It is the goal of the Nebraska telephone industry with funding incentives in place to eliminate the digital have-nots without creating the digital never will-haves.

Separate networks deployed in a rural environment are of concern for several reasons, whether they are publicly or privately owned. These separate networks undo the market aggregation needed to support a robust, sophisticated public-switch network. Further, the providers of these separate networks often lack funding to keep the technology current and the staff to maintain the technology and the network on a ubiquitous basis.

We're proud of the leadership of our elected officials on telecommunication issues in Nebraska. We're

proud of the telephone industry and the work they've done. We look forward to continuing this discussion today on this panel and to the other panels as they take place later in the afternoon.

(Applause.)

MR. JOHNSON: Patty Anderson.

MS. ANDERSON: Thank you.

Hawarden is a small, rural farming community of about 2,500 and is located 40 miles north of Sioux City, Iowa. Hawarden owns its own water, sewer, electric for 100 years, gas for 50 years, cable TV, telephony, and soon to be Internet utility. Our economy is mainly dependent upon existing businesses and agriculture.

In the early 1990s the Hawarden City Council began assessing the community as a whole, making plans of improving existing utilities and the possibility of forming new cable TV, telephony, and Internet utilities as requested by citizens. The questions were asked, how long would our businesses, schools, library, and hospital survive without advanced technology and other services, and where do we want to be in five to ten years?

Citizens had already made capital investments in those areas. Now they needed to ensure a technological future.

Our state has implemented an Iowa Access Network

program in our counties' geographical information system to give citizens easy access to many state and county programs and departments. We wanted reliable and easy access to those networks too. With that in mind, Hawarden planned and engineered a broadband state of the art high-bred fiber and coaxial cable or HFC system to bring advanced communications and information services to the City of Hawarden.

HFC systems offer the latest technology opportunities and combines light-transmitting fiber optics with the most advanced coaxial cable product available to bring today's and tomorrow's technologies. This system is capable of providing up to 80 cable TV channels, multiple telephony lines, high-speed Internet, and future technological capabilities.

From 1994 through 1999, Hawarden began forming a communications utility called High Tech. Hawarden integrated technology, energy, and communications, built an HFC system and in October of '97 successfully offered cable TV to 845 subscribers. There are 960 homes in Hawarden.

Hawarden formed a partnership with Pioneer Holdings, who is a joint venture of Longlines [phonetic], Limited, MCI Worldcom, and Northwest Iowa Power Cooperative for telecommunications services. Hawarden also made plans of serving city or rural areas with Northwest Rural Electric Cooperative, who has an innovative wireless Airspan product.

Hawarden faced major legal and legislative challenges in the process of forming its telephony utility. On October 20, 1998, Hawarden turned on its telephony utility, only to be shut down the very next day due to an unfavorable Iowa Supreme Court ruling. Through Alwers [phonetic] law firm, Ivan Webber [phonetic] asked that Hawarden's case be reheard, and we supported a bill introduced by the Iowa Association of Municipal Utilities to ensure the ability to operate.

At the end of March of '99, months later and after spending $300,000 in legal and legislative efforts and losing contracts, Hawarden for the second time began turning on telephony lines. Currently, High Tech has 1,200 telephony lines on and has been testing a high-speed Internet product produced by Tel Labs, which offers up to 2,000,000 bits per second, scheduled to be offered in June of 2000.

Hawarden never set out to gain this kind of attention. We were only trying to find a solution to problems and to ensure the city's economical, technological, educational viability, because no one else was willing to make this kind of an investment. As a result, Hawarden's project has caused other providers to make promises and improvements in their systems in other communities.

Hawarden's project can also be replicated

throughout the country to give both rural and urban communities the same advantages. We feel we have eliminated what we think the digital divide is.

Thank you.

(Applause.)

MR. JOHNSON: Thank you, all panelists, for your presentations showcasing the activities you've been in.

CHAIRMAN KENNARD: Thank you all for those really interesting presentations.

I thought that I would highlight a couple of things that would be very useful for us as we take this record that we develop here back to Washington and shape it into the report to Congress.

What we're looking for are success stories. So many times people come up to me and they say, Mr. Chairman, what are you going to do to make sure that rural America is not left behind in the analog dark ages as we move into the digital future? And what I always tell people is that, Well, the answer to that lies in rural America because there are things that are happening -- and we just heard about a couple of them just now -- that hold the real promise for making sure that rural communities are connected.

I've spent enough time in rural parts of the country now to know that there are things that work. I've seen communities step up to this challenge, companies step

up to this challenge and deploy advanced services, state of the art wireless DSL, cable modems that are connecting people to the network at very high speeds. The challenge here as in other areas, education and elsewhere, is how to bring them up to scale.

So it would be very useful for us to hear two things. One is what are the success stories, what is working? We just hear about Hawarden, which is a delightful example of how technology is working well in a rural community. So tell us the success stories: what is the formula for success? But second, tell us what we can do to replicate that success on a nationwide basis?

And I also hope that we get some opportunity before the end of the day to hear from many people in the audience -- because I suspect that there are a lot of success stories that we'll hear about if we get to that point.

Thank you.

MR. JOHNSON: Anyone else?

SENATOR KERREY: Frank, could you comment on the Hawarden model, as to whether or not that has applicability in other, smaller communities in Nebraska.

MR. HILSABECK: Well, certainly I think it's an interesting concept. What I don't know -- subject to the topic of that, you know, is what's the cost, what's the tax

structure, what's the financial support that has brought this to that community? You know, I don't know, again, the demographic makeup of the community; I don't know how far some of the rural customers are, what has to be done financially to make this all work.

Again, I don't think -- it doesn't particularly sound to me like anything that couldn't be done probably by the telecommunications industry, were it being done today. I think what she said was that no one was paying any attention to them and so they decided to do it themselves.

SENATOR KERREY: I think what she said was it wasn't being done, and since it's been done in Hawarden, it's now being done in other communities by private companies.

Patty, can you provide any information on the cost structure, what it costs a residential or a business user?

MS. ANDERSON: For our total project it cost about 4.6 million to install a fiber backbone with coaxial cable throughout the community and build a central office that houses our cable, telephony, and Internet equipment.

SENATOR KERREY: What does a business or residential user pay?

MS. ANDERSON: For telephony?

SENATOR KERREY: Yes.

MS. ANDERSON: The residential rates are $11.05 plus taxes, of course, and a business rate is $28.15 plus taxes.

SENATOR KERREY: Well, I'm referencing my book, and just looking at Beatrice in Gage County, ALLTEL's $17.50 for residential and $37.55 for business, so that's certainly competitive on price. How did that happen?

(General laughter.)

MR. HILSABECK: I certainly wouldn't disagree with that at all. I'm sure the City of Hawarden probably has a little different profit motive, but, you know, I don't know that much about it.

CHAIRMAN KENNARD: Patty, are there any competitors that have moved into the marketplace to try to sell the customers?

MS. ANDERSON: In Hawarden, when we began this US West owned the telephone exchange. Hawarden of course built a system and US West in the meantime has sold the existing system to Hickory-Tek [phonetic] out of Minnesota, so there's the two of us here -- the two of us in Hawarden offering competitive services.

But as far as a third entity moving in the community, no.

SENATOR KERREY: May I ask another question? Does somebody else want to jump in here?

Governor Maurstad, as I've said, we've done this inventory of all 93 Nebraska counties trying to assess where we are today, and one of the things -- and again, as I've said, I can't really ask the question about enhanced services or lack of enhanced services, and I do take Frank's point about making certain they don't create digital have-nots at all rather than solving the digital divide problem.

But about the only thing that really jumps out at me is the possibility that we've got this e-rate fund structured wrong, and I do think that part of the answer to the question for Hawarden may be that we have the universal service structure wrong as well or insufficiently funded or some such thing as that. I don't know. But on the e-rate it does stand out.

We've got, in Beatrice for example, Beatrice got about $45,000 a year. Omaha gets about a million dollars a year. Grant County, which actually is one of the poorer counties, 89th ranking in the state total, got no e-rate assistance at all. Now, that's a community with 273 residential lines and 104 business lines. That's a tough community to serve. Consolidated serves them. That's a very tough problem to solve when you're talking about that small of a number.

And I'm wondering if you've looked at either the universal service fund and how it works, and/or the e-

rate -- whether the e-rate structure and the funding is wrong as well. We just -- again, we were at Bayard and Bayard went through this hellish experience of trying to get funded, and it cost them about $1,800. Well, $1,800 is not much to Omaha, but in Bayard, with the $2 million budget, it's an awful lot of money. It meant being able to buy a couple of computers.

And so I wondered if you've looked at the e-rate formula and/or the universal service fund.

MR. HILSABECK: I'm not aware that we've looked at the e-rate formula, and I wrote a note to myself earlier when that subject was brought up. At least I'm not aware that we have, and if we have I'll make sure that the appropriate individuals provide you that information.

Relative to the universal service fund, obviously, like everybody west of the Mississippi River, we're concerned about what occurred in the first round of grants and decision making, and it's hopeful that some improvement can be made relative to that concern, even to the extent that the issue will come forward again in the second round, which will still probably put many in Nebraska that are in non-metropolitan areas that are served by telecom that are involved in metropolitan areas, which most of our state would fall under that, we may be shut out again in the second round.

And so we certainly feel that there needs to be an additional category developed that would be more appropriate for states like Nebraska.

SENATOR KERREY: Can you tell us about the first round of universal service funding?

CHAIRMAN KENNARD: Yes, I'd be happy to.

First of all, let me talk a minute about the e-rate, because Betsy mentioned something that -- what I heard you say was some frustration about not being able to use that e-rate funded network for the ICN, and that was an issue that we grappled with a lot at the FCC. We -- I spoke with Senator Harkin -- and Governor Branstad set up an office, and I talked to him -- and they made a very passionate pitch to me and my colleagues at the FCC to use e-rate funding to help build the ICN. And nobody disagreed with them as a matter of policy.

It's like Mom and apple pie. Why wouldn't you want to have e-rate funding extended to fund non-profit organizations and colleges and universities and a statewide network? The problem is the law. We ran right into a brick wall. The legislation just didn't give us the flexibility to do that.

Now, three years into the e-rate program we know that the formula works. The formula that Senator Kerrey and his colleagues came up with when they drafted the amendment

that became the e-rate provision has some sort of universal features that are working very well for the country.

One, it's a competitive bidding process so the money is used efficiently. It is a matching program so that the local schools have to come up with some of the money in order to fund it, and it's universal. It applies to everyone but it's targeted for the most financially distressed communities.

We know this formula works. Why not extend it to networks that will serve universities that don't have technology, and non-profit organizations, community-based groups that will drive technology deeper into our communities. So that is one thing that I would like us to address in this 706 report to Congress. We've made over a $6 billion investment in this effort. We know it works. Let's build on that success.

Now, to address the Lt. Governor's concern about universal service funding, we are embarked at the FCC on -- probably our most difficult challenge right now is restructuring the whole universal service funding mechanism, and thankfully, we had a lot of help from our colleagues in the states, but it's really very difficult.

The challenge is -- and it's an age-old question that we come back to, what is the role of government in helping to build out this network? I would like us to

address that question in a very 21st century way and look at universal service funding in ways that allow us to use the best state of the art technology to drive this broadband technology into our communities. And by that I mean we've got to ensure that this money, which is a very limited resource, is used most efficiently.

That means if it means funding a wireless company that can bring telephone service and advanced services to rural communities, or a satellite technology, we've got to fund it. We've got to break out of the mold of thinking that universal service is only a wire line centric funding mechanism, because if we don't, we're living in the dark ages because technology is going to solve these problems of rural deployment a lot easier.

So I think the challenge to all of us as we move into this next phase of universal service funding is how do we make this mechanism work with technology most efficiently? And I invite all of you to answer that question, hopefully the panelists and people in the audience.

MR. KENNARD: We have completed 45 minutes of presentation by this panel --

MS. SANFORD: If I may ask one question -- and this panel is the perfect one to ask it of, I believe. Are arguments offered in opposition to either progressive or

aggressive government support of broadband deployment back in my home state include the argument that they may not come if we build it -- sort of the Field of Dreams argument that has gotten a fair amount of play.

I would be very interested in your response -- any panelist's response to that argument, either supportive or contradictory based upon your experience.

MR. HILSABECK: Who's building it?

MS. SANFORD: Well, the proposals back home vary at this point from proposals for incentives in the form of tax credits offered by the government to surcharges on telephone bills to provide a fund for aggregation or whatever, but if we could just assume a generic -- also to amendment of our act which prohibits government provision of -- government interference in private industry.

If we are debating an aggressive government program which supports deployment, perhaps through a variety of means, and without regard to what the specific means are, what do you think about the argument that we shouldn't be so concerned or we shouldn't move too quickly because they may not come even if we build it, we being private or public.

MR. HILSABECK: Well, I think from my perspective and tying in a little bit with what Chairman Kennard asked, I think one of the things that we need to be particularly cognizant of as we think about how we administer the

subsidies and incentives -- call it what you want -- is making sure that whoever is the recipient of those universal service subsidies is in fact providing universal service.

It doesn't particularly serve, it seems to me, anyone to provide subsidies to someone who wants to come to, say, the metropolitan area of Omaha and provide a downtown network to Peter Hewitt [phonetic] & Sons and other large businesses. It seems to me that if you want to deploy service in rural areas, much the same as took place in 1934 when they passed the Communications Act, it called for universal service, and we had a system of subsidies -- if you want to do the same thing today, some 60-70 years later, you've got to make sure that the people who receive the subsidies are in the fact the people who are providing universal service so that it's not just large business customers and it's not just schools, it's not just libraries and health care providers. It's the rural community. It's farmers and ranchers who need access probably more so today than they did a number of years ago, and you need to make sure that those people and the people who serve them are the ones who receive the subsidies.

Now, that can be a telephone company; it can be anyone. It just can't be a company who selectively targets the markets that they want to serve and want to be subsidized in order to do that.